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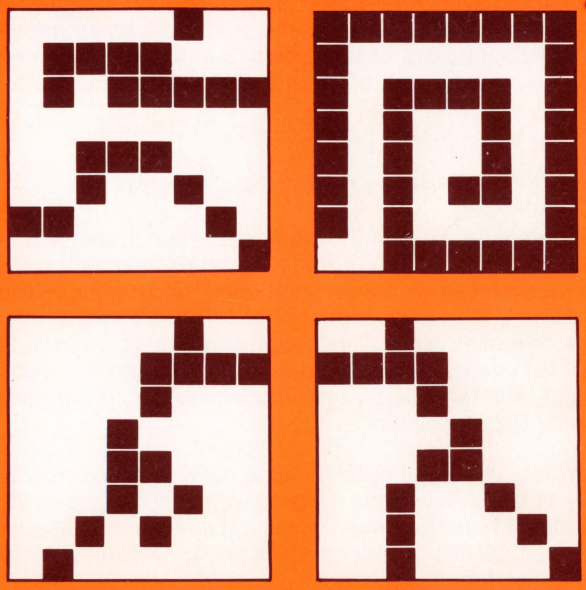
THE Children's Discovery System™



Activity Book

DISCOVERIES IN™ ARCADE ACTION I Learning Fun Module

Use this learning fun module with
The Children's Discovery System™ Computer

MATTEL®

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Mattel Toys warrants to the original consumer purchaser of any of its Electronic Toys that the product will be free of defects in material or workmanship for 90 days from the date of purchase.

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Mattel Electronics Repair Center
5000 West 147th Street
Hawthorne, California 90250

Units returned without proof of the date of purchase, or units returned after the 90-Day Warranty Period has expired, will either be repaired or replaced with a reconditioned model of equivalent quality (at our option), for a service charge of $10.00. Payment must be made by check or money order. This out-of-warranty service will only be available for one year from the date of purchase. All out-of-warranty units must be returned postage prepaid and insured to Mattel Electronics Repair Center.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. This warranty does not cover damage resulting from accident, unreasonable use, neglect, unauthorized service or other causes not arising out of defects in material or workmanship.

IF YOU HAVE ANY QUESTIONS OR PROBLEMS REGARDING THE USE OF, **THE CHILDREN'S DISCOVERY SYSTEM™** OR YOUR LEARNING FUN MODULES, CALL THIS TOLL-FREE NUMBER:

(800) 421-2887

DEAR PARENT 4

DEAR BOYS AND GIRLS 5

CURSOR THE GREAT™ 5

INSIDE THE CARTON YOU WILL FIND 6

CARTRIDGES NEED GOOD CARE, TOO! 7

LET'S GET STARTED 8

RUNNERS 11

GOLF 19

PUSH OFF™ 32

Dear Parent:

Your Discoveries In™ Arcade Action learning fun module provides valuable learning opportunities for your child in a uniquely entertaining package. You will find this out for yourself as you join with your child in creating new variations on each game. The possibilities within each game are endless and provide ever-changing challenges.

The programming in the Arcade Action cartridge enables each player to improve upon his or her ability to process information using visual, auditory and tactile senses. This ability to process information is a prerequisite for successful learning in the classroom. The Arcade Action games help children enhance several perceptual skills as well as help improve their hand/eye coordination. In addition, children can learn how to design for themselves activities that relate to their own developmental levels.

As you go through this manual with your child, watch as your child plays each game, actively solving game problems and developing successful strategies.

The benefits from participating in a game learning process extend beyond the games themselves. Your child will learn how to identify and then solve problems. As your child's confidence grows with successful participation in these games, he or she will seek even tougher challenges, leading to further improvement in certain skills. You may notice a greater willingness on the part of your child to experiment and learn more about the games and his or her own skills.

Discoveries In™ Arcade Action I is designed to make children think about themselves, others and the strategies necessary to be successful—valuable lessons to be learned while still having fun.

Sincerely,

Raymond P. Wagner

Raymond P. Wagner, President

MATTEL TOYS

dear boys and girls

Have you ever played arcade games? Well, your Discoveries In™ Arcade Action I learning fun module will turn your computer into your very own arcade. Your new cartridge is programmed with three exciting games. There are so many different things it can do. And so many things you can do with it. You will be able to create your own versions of these games, that will challenge you, your friends, Mom or Dad, brother or sister. You will be able to compete with friends, even have your own arcade tournaments. So, step right up and get ready to become a V.I.P.—a very important player!

Be sure to read this Activity Book so you can learn all the amazing things your Arcade Action I cartridge can do...and, so you will be able to explore and create games on your own.

CURSOR THE GREAT™

Hi! Remember me? "I'm CURSOR THE GREAT. I'm the computer man who's made up of many little black computer squares. I'll be around again to point out special things to you in this Activity Book.

We're going to have lots of arcade fun together—so let's get started!

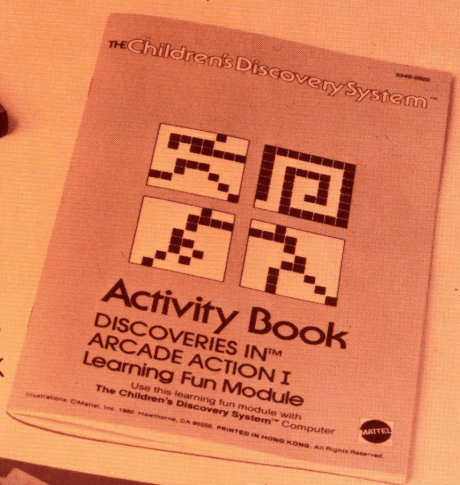
INSIDE THE CARTON YOU WILL FIND:

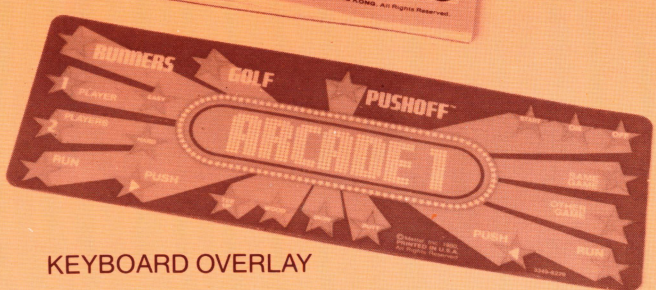
YOUR DISCOVERIES IN™ ARCADE ACTION I LEARNING FUN MODULE, CONSISTING OF:

DISCOVERIES IN ARCADE ACTION I CARTRIDGE
DISCOVERIES IN ARCADE ACTION I ACTIVITY BOOK
DISCOVERIES IN ARCADE ACTION I KEYBOARD OVERLAY

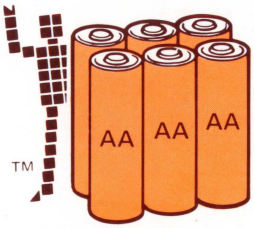
CARTRIDGE

ACTIVITY BOOK





KEYBOARD OVERLAY



"**REMEMBER**..to keep fresh batteries in your computer. It uses six AA alkaline batteries. If you need to put new batteries in, check the front of your Computer Activity Book for directions. (Any time your computer starts showing strange displays or not doing what it's supposed to do, it probably needs fresh batteries.")

CARTRIDGES NEED GOOD CARE, TOO!

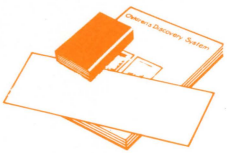
Your DISCOVERIES IN™ ARCADE ACTION I cartridge has some very delicate electronic parts inside. Because of this, it needs some extra care.

Don't leave it in direct sunlight or anywhere else where it can get hot (120° F or hotter).

Don't let it get very cold either (35° F or colder).

Don't get your cartridge wet or dirty.

When you're finished using a cartridge, TAKE IT OUT OF YOUR COMPUTER. Put it away with your Activity Book and Keyboard Overlay in the storage box it came in.



Always turn your computer off before you insert or remove a cartridge.

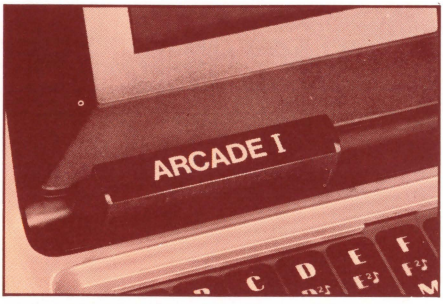
Do not try to plug your cartridge into any other computer. Don't try to plug any other type of cartridge into YOUR computer.

Take care of your DISCOVERIES IN™ ARCADE ACTION I cartridge and it will work for a long, long time.

LET'S GET STARTED!

Make sure your computer is turned OFF

PUT THE CARTRIDGE INTO THE COMPUTER.

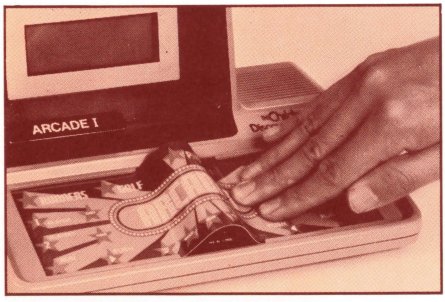


Hold the cartridge so that the label side (the side that says ARCADE I) is facing UP

Now place the cartridge into the opening in front of your computer. Push it in as far as it will go.

When you want to take a cartridge out, TURN YOUR COMPUTER OFF, then just pull the cartridge straight out.

PUT THE OVERLAY OVER THE KEYBOARD.



Your learning fun module comes with a thin, plastic sheet that fits over the computer keyboard. This is called an OVERLAY. It is printed on one side only.

Find the LONG LIP that runs all the way around the keyboard, except for a top and bottom space in the middle of the keyboard. Start in this middle space and slip the LEFT side of the overlay UNDER the LEFT TOP and LEFT BOTTOM LIPS. Slide the overlay all the way under the LEFT END LIP, as far as it will go.

Now slip the RIGHT side of the overlay under the RIGHT TOP and RIGHT BOTTOM LIPS. You will have to make a loop in the overlay to do this. (See the picture.) Be careful not to crease the overlay. Slide the right side of the overlay all the way under the RIGHT END LIP, as far as it will go.

Make sure the overlay is securely under the lip, all the way around the keyboard, except in the middle. This overlay tells you which keys to use in the Discoveries In™ Arcade Action I cartridge.

Each cartridge that you use will have its own overlay.

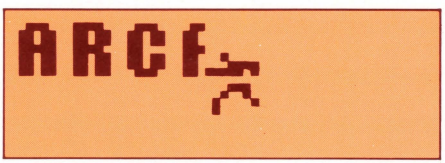
TURN YOUR COMPUTER ON.

Press the ON key. The ON key is on the right side of the keyboard, at the top.

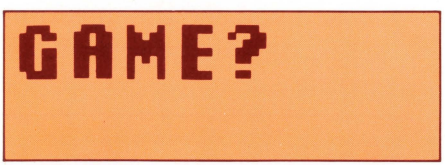
When your computer comes on, you will hear TWO MUSICAL NOTES and see the question **START?** on the screen.

PRESS THE START KEY:

You will hear FIVE MUSICAL NOTES and see **ARCADE 1** on the screen. Cursor the Great™ will run across the screen, from right to left, erasing the title as he runs across.



When Cursor the Great™ runs off the screen, you will hear more MUSICAL NOTES and see the question **GAME?** on the screen. This means, "What game do you want to play?"



TURN THE PAGE AND I'LL TELL YOU ALL ABOUT THE FUN!

CHOOSE A GAME!

There are three different games in your DISCOVERIES IN™ ARCADE ACTION I cartridge.

1 **RUNNERS**—a game of reflex and coordination for 1 or 2 players. Easy and hard levels of difficulty.

2 **GOLF**—a game of judgment and skill for 1 or 2 players.

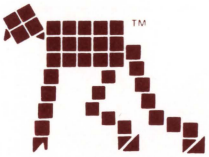
3 **PUSH OFF™**—a game to test the reflexes of 1 or 2 players.

When you see the question **GAME?** on the screen, press one of the three GAME keys at the top of the overlay.

You will hear a STARTING TUNE and see the title for the game you chose on the screen.

You can switch games **any time you want** by pressing one of the GAME keys. If you are in the middle of a Golf game and want to switch to Runners, just press the Runners key. The Golf game will stop and the Runners game will start.

RUNNERS



OBJECT OF THE GAME: To get your runner to the Finish Line before your opponent gets his runner to the Finish Line. If you play alone, the computer is your opponent.

1. Select this game by pressing the RUNNERS game key. You will hear a tune and see the game title.

2. The game title will change to the question: **1 OR 2 PLAYERS?** Press either the 1 PLAYER or the 2 PLAYERS key.

1 PLAYER—You control top runner. Computer controls bottom runner.

2 PLAYERS—You and another person control runners.

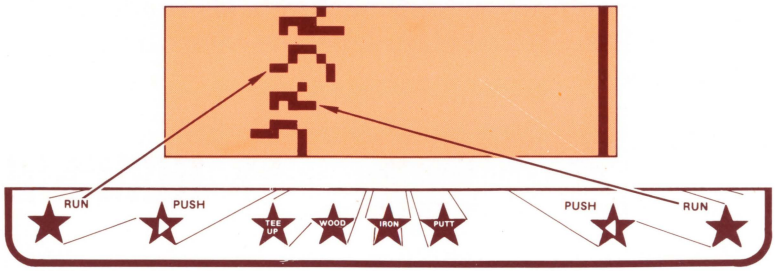
3. The computer will ask: **EASY OR HARD?** Press either the EASY or the HARD key. The game will then start. (See page 14 for differences between Easy and Hard games.)

HOW THE GAME WORKS

This is what you see when the game starts:

RUNNERS

There are two RUN keys at the bottom of the keyboard overlay—one right and one left. These keys move the runners forward. The computer moves its runner one step at a time. Runners that are controlled by players can take more than one step at a time.



The LEFT key moves the TOP runner.

The RIGHT key moves the BOTTOM runner.

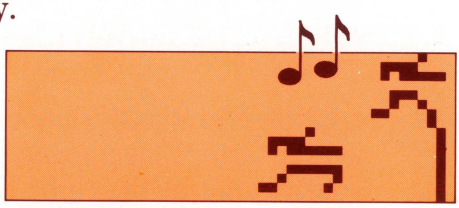
Your runner will **only** move forward if you press your RUN key when the Finish Line is **visible.** The Finish Line flashes on and off during the game. Sometimes it stays on or off longer than other times. How fast the Finish Line flashes on and off depends partly on whether you are playing an EASY or HARD game.

Hold a finger over the top of RUN key and keep your eyes on the FINISH LINE. You must be ready to press RUN when you see the FINISH LINE come on. You also must be ready to take your finger off RUN when the FINISH LINE goes off.

Practice and learn more about how to have your runner move forward. Keep your eyes on the finish line. Do not watch your runner because you will not see the finish line go on and off. Notice that the FINISH LINE's time to be on and off keeps changing. Do not guess. Watch the FINISH LINE.

If you press your RUN key when the Finish Line is NOT visible, your runner will be sent back. How far your runner is sent back depends on whether you are playing an EASY or HARD game.

When one of the runners makes it to the Finish Line, the half of the Finish Line **in front of him** disappears and you hear a VICTORY TUNE. The other half of the Finish Line stays on the screen. The winner is the first to reach the Finish Line and make his half of the line disappear. A tie is possible in this game, but not very likely.



At the end of the game, after the VICTORY TUNE, the computer will ask: **SAME GAME?** If you want to play RUNNERS again, at the same skill level and with the same number of players, press the SAME GAME key. The game will start over again.

If you want to play RUNNERS a different way or play a different game, press the OTHER GAME key. The computer will take you back to the **GAME?** question, so you can select what you want to do. If you want to play either Golf or Push Off,™ you can skip the OTHER GAME key and just press the GOLF or PUSH OFF key. The game you select will start right away.

RUNNERS EASY OR HARD GAME

There are THREE DIFFERENCES between the **easy** and **hard** RUNNERS games.

1. **WHERE RUNNERS START IN A 1-PLAYER GAME.**

   EASY—Both runners start at the Starting Line.

   HARD—Your runner starts at the Starting Line. The computer's runner starts halfway to the Finish Line.

2. **HOW FAST THE FINISH LINE FLASHES ON AND OFF.**

   EASY—The Finish Line usually stays on or off for a longer time. This makes it easier to stop or start your runner at the right time.

   HARD—The Finish Line does **not** usually stay on or off for long. This makes it harder to stop or start your runner at the right time.

3. **THE DISTANCE YOUR RUNNER IS SENT BACK IF YOU PRESS RUN WHEN THE FINISH LINE IS NOT ON THE SCREEN.**

   EASY—The screen is divided into thirds. There is an electronic marker at the 1/3 and 2/3 points. You can't see the markers but the computer knows they are there. If you press RUN when the Finish Line is not on the screen, your runner will go back to the nearest marker which he has passed. If your runner hasn't made it to the first marker, he will go back to the Starting Line.

   HARD—Your runner will always go back to the Starting Line if you press RUN when the Finish Line is not on the screen.

THEY'RE ALL FUN!

POINTERS FOR RUNNERS

If you continue to hold the RUN key down when the Finish Line is not on the screen and your runner has been sent back, he will appear to be running in place at the point to which he was returned. He will not be sent back any farther.

When the Finish Line comes back on the screen, he will immediately start running forward again. This gives you a good game strategy. If your runner gets sent back, keep pressing the RUN key, so you won't lose any time when the Finish Line comes back on again.

AUTOMATIC SHUTOFF

The computer's automatic shut-off feature will not work after a game of Runners has been started, until the game is over.

In a 1-Player game, the computer will eventually win, even if you stop playing entirely. After it wins, it will wait about 2½ minutes, then shut itself off if none of its keys are pressed during that time.

In a 2-Player game, if both players stop playing before the end of the game, the computer will continue to flash the Finish Line on and off. The computer will BEEP each time the Finish Line flashes off. The beeping will continue until you either play again or remember to turn your computer off, or until the battery runs down.

Here are some Runners game variations. Each is a little more difficult and challenging. Try these as both EASY and HARD games.

FINGER CHANGER!

Use different fingers than you have been using. Try combinations of fingers, or fingers on a different hand. Try your thumb, too.

FINGER SWITCH!

Try using all your fingers the same way as when playing a piano or typing.

FINGER AND HAND SWITCH!

Try both hands, using all your fingers as you did in Number 2. Are you better with the fingers on one than with the other? If you are right handed, does your right hand (sometimes called your preferred hand) work better than your left hand? If you are left handed, does your left hand (preferred hand) work better than your right hand?

TEAMS ON THE BEAM!

You can play this variation with four people or more. Form teams of two or more players on a team. For example:

TEAM A	TEAM B
Player 1	Player 1
Player 2	Player 2

Now, have each player on each team play one another—Player 1 on Team A vs. Player 1 on Team B, Player 2 on Team A vs. Player 2 on Team B, Player 1 on Team A vs. Player 2 on Team B and Player 2 on Team A vs. Player 1 on Team B. Keep score on which team player wins. The first team to win 3 races is the team winner.

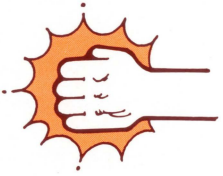
GOOD TIME RUN!

Play this game alone or with 2 or more friends. Time how long it takes to win a race. Play three or more races. If you're playing alone, try to beat your shortest time. If you're playing with friends, the winner is the player with the least amount of time. Use a wrist watch or other clock that has a second hand or digital display.

EXAMPLE:

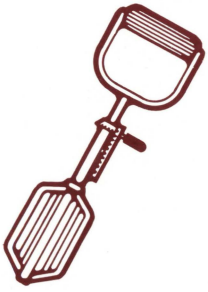
Player 1		Player 2	
1st Race—	**60** seconds	1st Race—	**70** seconds
2nd Race—	**50** seconds	2nd Race—	**50** seconds
3rd Race—	**70** seconds	3rd Race—	**70** seconds
TOTAL	**180** seconds	**TOTAL**	**190** seconds

BATTLE RUN OF THE HANDS!



Play this game alone and press 2-PLAYER key. Your left hand will control the top runner; your right hand will control the bottom runner. Have your left hand compete against your right hand. Which hand wins more often?

TIME BEATER MEET!



This game is for one or two players. Set a time to cross the finish line. See if you can beat that time. The winner must reach the FINISH LINE first and must get there before the time is up.

THE 3 BLIND MICE RUN!

Press the 1-player key. See how you race with your eyes closed. Press RUN key when you hear the ticking sound of the computer's runner's footsteps. Let up on the RUN key when you hear the beeping sound. Can you do better with your eyes open or closed?

HARDER AND HARDER!

If you find these variations too easy, try the next two:

CRAZY MIXED UP HANDS!

Press 2-PLAYER key. Cross your hands in front of you so that your right hand controls the left RUN button (top runner), while your left hand controls the right RUN button (bottom runner). Compete against yourself. Which hand wins?

KEEP YOUR BALANCE!

Hold a book, ball or some other object in the air in one hand. Use your other hand to press the RUN key. Is it difficult to move your runner now, because you must balance or hold something in one hand?

IS TOGETHER BETTER?

Tired of trying to beat your friend? Try one of the following cooperation games in both the EASY and HARD modes:

BEAT THE BOTTOM RUNNER!

Press 1-PLAYER key. See if you and then your friend can beat the bottom runner. Time yourselves. Add both your times together. Then play again to see if you can beat your time.

DOUBLE TIME!

Press 1-PLAYER key. This time set a time for both you and your friend to beat. Each of you take a turn and time yourselves. Did you beat your time?

GOLF

OBJECT OF THE GAME:

To get from Tee-off to the "Hole" in as few tries (strokes) as possible using one or more clubs. There are 18 holes in a game. When you finish all 18 holes, you will have played a round of golf. Your score will tell you how many strokes you needed to play a round of golf. Lowest score over all 18 holes wins.

The game of golf as played on a real golf course is explained on page 30. To better understand the game you may wish to read that explanation before playing golf on your computer. And be sure to see the glossary of golf words on page 31.

1. Select this game by pressing the GOLF game key. You will hear a tune and see the game title on the screen.

2. The game title will change to the question: **1 OR 2 PLAYERS?** Press either the 1 PLAYER or the 2 PLAYERS key.

1 PLAYER—You play to beat your own lowest score. There is no computer-controlled opponent.

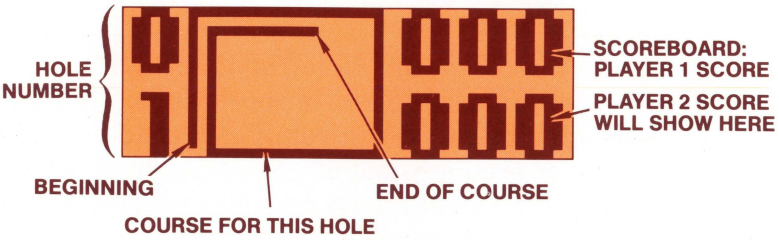
2 PLAYERS—You and another person play against each other, taking turns on each hole.

3. After you select the number of players, you will hear a SERIES OF BEEPS and the computer will tell you to **TEE UP.** Press the TEE UP key. The game will start with the number 1 hole.

HOW THE GAME WORKS

(2 PLAYERS)

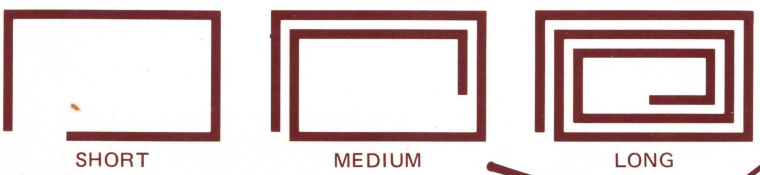
This is what you see when the game starts:

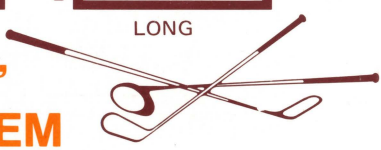


The computer will draw the course for the first hole. It will look similar to the course in the picture above, but it may be longer or shorter in total length.

The length of the course is the total length of the line used to draw it. Each hole in a particular game will be a different length.

EXAMPLE:





YOUR GOLF "CLUBS" AND HOW TO USE THEM

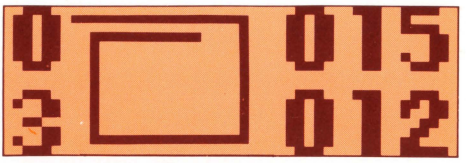
There are three "CLUB" keys you can press to "hit" the imaginary golf ball along the course. Each key hits the imaginary ball a different distance, for the same amount of time pushed.

Longest distance (more of the line will disappear)

Medium distance (less of the line will disappear)

Shortest distance (push longer than IRON key to make the same amount of line disappear)

When you press a club key, the computer traces the path of the imaginary ball. WHEN YOU LET UP ON THE CLUB KEY, the computer shows you how far you sent the ball, by ERASING the line up to the point where the ball stopped. The computer starts erasing the line from the same point where it starts drawing the course.



Each time you press a club key a stroke is counted and 1 POINT is added to your total score. Your score for each hole is the number of strokes it takes you to make the ball go into the hole (make the line disappear). Your total score shows on the right side of the screen. You can press any club key, any time, as many times as you like.

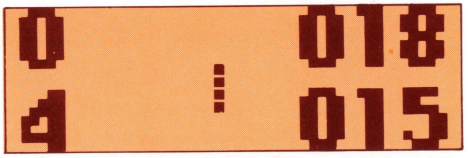
The longer you hold a club key down, the farther it will send the imaginary ball. If you hold a key down TOO long, however, you will overshoot the end of the course. The computer will know this is happening, even though you don't see it. You will hear a WARNING TONE and 1 POINT will be added to your score. The ball will not move at all—that is, NO PART of the line will be erased. You then must hit the ball again from where you were. Do not hold the same club key down again as long. Or choose a different club that will not hit the ball as far.

Experiment a little with the different club keys to see how long you can hold each one down before you get the WARNING TONE. The closer you are to the **beginning** of the course, the longer you can hold a club key down before you get the warning tone.

PRACTICE TIPS:

Try different ways of keeping track of how long you hold a club key down. For instance, you could say a word to yourself as you press. You might say "short" in a quick way or say "long" by dragging out your word. Or you can count. Each of these ways may help you learn to hold the key down just the right amount of time.

Keep pressing club keys until you have erased the entire line for a hole. If you are a long way from a hole, first use your WOOD key. As you get close to the hole, use your IRON key. Finally, when you are very close to the hole, use your PUTT key to keep from overshooting the hole when you have only a few squares left. If you quickly press and let up on the PUTT key, only one square will be erased. You will learn that the ball goes a different speed and different distance for each club. The longer you hold down a club key, the farther the ball goes (line disappears on your screen).



Holding down the WOOD key now would cause you to overshoot this hole.

After Player 1 finishes a hole (erases the line completely), his or her total score so far will show on the top line of the scoreboard. Player 2's total score so far will appear on the bottom line. Both scores will remain until Player 2 presses the TEE UP key. Each player must press TEE UP key to start a new hole. The SAME HOLE will be drawn again and the scoreboard will change to show only Player 2's score.

Once you start to play a hole, you must completely erase it before it is the other player's turn.

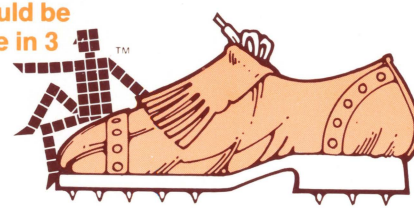
A game is 18 holes long. After the last hole has been played by both players, the scoreboard will show the final scores for both players. The person with the LOWEST score is the winner. (For a shorter game, stop at 9 holes. The person with the lowest score after 9 holes will be the winner.)

After 18 holes are completed the screen will now remain exactly as it is unless you press the TEE UP key again or OTHER GAME key. If you press the TEE UP key, the computer will ask **SAME GAME?** If you want to play 2-player Golf again, press SAME GAME key. If you want to play 1-player Golf, press the OTHER GAME key or the GOLF GAME key. If you want to play either RUNNERS or PUSH OFF,™ press the GAME KEY for the game you want.

If you want to count the number of strokes you took for each hole, you must write down the stroke total at the end of each hole. Simply subtract this total from the total score after playing the next hole. For example:

HOLES	1	2	3	4
TOTAL SCORE	5	10	12	16
SCORE PER HOLE	5	5 (10-5)	2 (12-10)	4 (16-12)

With practice, you should be able to complete a hole in 3 to 4 strokes.



1-PLAYER

1-Player Golf is played the same way as 2-Player Golf, except that you do not have an opponent. You are trying to beat your own lowest score so far. Your score is constantly displayed on the top line of the scoreboard, and when you are finished with a hole and press TEE UP, the computer goes right on to the next hole. After 18 holes, your total score for the game shows on the scoreboard.

PLAYING GOLF IS A

There are many ways to play GOLF. For more challenging games try the following variations:

Play 2-PLAYER games by yourself. This will give you a chance to play each hole twice, once as Player 1 and once as Player 2. You can practice a hole and then play to see if you can do better.

WHICH HAND!

Play 2-PLAYER games by yourself as above. Play each hole first with your preferred hand (right hand if you are right handed; left hand if you are left handed), then play the same hole with your nonpreferred hand (other hand). See which hand does better.

HOLE 'N WIN!

Learn to keep your score for each hole. You then can play games and tournaments based on the number of holes you win, not total number of strokes. Make a scoreboard to keep track of your score for each hole.

HOLE #	1	2	3	4	5	6	7	8	9
	10	11	12	13	14	15	16	17	18
PLAYER 1									
PLAYER 2									

MATCH PLAY YOUR WAY!

You can now play a different kind of game called MATCH PLAY. MATCH PLAY usually is played to win the most number of holes. For example, if Player 1 scores 5 on the first hole and Player 2 scores 6 on the first hole, Player 1 would "win" that hole. The Player who wins the most number of holes out of 18 wins the MATCH. It is possible to tie a hole. That's O.K., no one wins that particular hole.

TAKE TURNS TOURNAMENTS!

Play several kinds of tournaments. Each tournament can be played in a different way and you can have teams of players compete against one another. Here are some possible tournaments:

1. Get a partner so that **pairs** of players compete against one another.

EXAMPLE:

TEAM A		TEAM B
PLAYER 1	vs.	PLAYER 1
PLAYER 2	vs.	PLAYER 2

Allow each team's Player #1 to play only the first 9 holes. Then allow each team's Player #2 to play the last 9 holes. The computer will show each team's total score (Player 1 and Player 2) for the total 18 holes. The lowest score wins.

2. Have 3 or more players on each team.

EXAMPLE:

TEAM A		TEAM B
PLAYER 1	VS.	PLAYER 1
PLAYER 2	VS.	PLAYER 2
PLAYER 3	VS.	PLAYER 3

Each player on Team A plays the matching player on Team B (that is, Player 1 on Team A plays against Player 1 on Team B). After everyone has played, you add up the scores each player has made. The team with the lowest total score wins.

LET'S TEAM UP!

Play 2-PLAYER GOLF in partner-teams. Have one Player on Team A play with preferred hand (remember, the hand you use most often is your preferred hand. If you are right-handed, your nonpreferred hand is your left hand). This player should compete against opponent on Team B who plays with preferred hand. Other partners on Team A and Team B should play with their nonpreferred hands and compete against each other. Total team score decides who wins.

FAST!

Two players use the 1-PLAYER game. See how fast you can complete 18 holes. Don't worry about the number of strokes it takes to finish 18 holes. Speed is what counts in this game. Use a watch and time yourself or have a friend time you. Can you beat your time? Sometimes if you go too fast, you make more mistakes. How fast can you go, but not make too many mistakes?

2 ON 1!

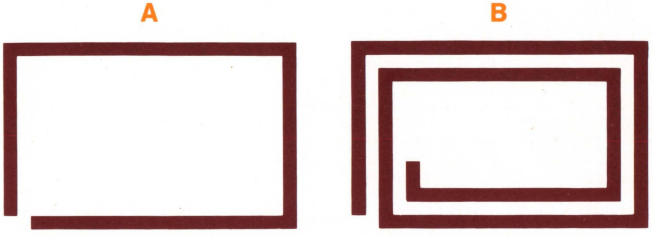
Play double partners. Two Players play on one hole taking turns on each shot. Then two other Players do the same thing.

REMEMBER! PRESS ALL KEYS FIRMLY!

PAR FOR THE COURSE

Set a score for each hole that you think a very good player will be able to make. Setting this score is known as **PAR** in the real game of GOLF. As the course line is displayed on your screen for each hole, set PAR for that hole. The following hints for setting PAR might be helpful:

a. The longer the line on your screen, the higher the PAR. For example:



Line A is much shorter than Line B, therefore PAR for Line A could be 2, while PAR for Line B could be 4.

b. The lowest PAR could be 2, while the highest PAR could be 5. Of course, you decide what is fair for you.

c. Remember, shorter holes require fewer strokes, while long holes might require more strokes.

Now you can keep track of the number of PARS you make during your 18-hole game. By the way, in real GOLF if you score one less than PAR on a hole, it is called a **BIRDIE.** If you score two less than PAR it is called an **EAGLE.** If you have some problems and score one more than PAR it is called a **BOGEY.** Keep track of your BIRDIES, BOGIES and EAGLES. Can you do better next time? Challenge Mom or Dad to a GOLF tournament. You decide on the rules.

HAVE A SAY IN FAIR PLAY!

Have you learned how to make every GOLF game fair to all players? Is it possible for two players of unequal skill to play one another so that each player has an equal opportunity to win? The answer to this last question is Yes. The player who is highly skilled could use a nonpreferred hand, while the other player could use a preferred hand. By playing GOLF this way, you have equalized the game for both players. Equalizing a game means to change the game just a little bit so each player has an equal chance at winning. In real golf, this is called HANDICAPPING a game. You probably have your own ideas about equalizing this GOLF game for your friends.

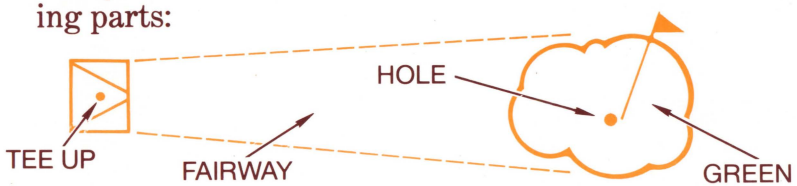
AUTOMATIC SHUT-OFF

After you press the TEE UP key in either a 1-Player or 2-Player game, THE COMPUTER WILL NOT AUTOMATICALLY SHUT ITSELF OFF, even if you don't press any keys for over 2 minutes. After 2 to 2½ minutes of inactivity, the computer will give a WARNING BEEP every 30 seconds or so. This lets you know that your computer is on and no one is using it. Turn it off when you are not using your computer, so that the battery does not run down.

BASIC RULES FOR REAL GOLF

1. Real GOLF is played outside on a GOLF **course.** The object of the game is to see how many strokes (swings of a golf club) it takes to put a golf ball into the hole. The fewer the number of strokes, the better the score. If two or more players compete against one another, the player with the lowest score wins.

2. Every hole on a GOLF course has the same following parts:



Each GOLFER begins at the TEE UP area by choosing a golf club. The player hits the ball down the **FAIRWAY** toward the **GREEN.** As the player gets closer to the GREEN, the player chooses different WOODS and IRONS to hit the ball. Once the ball is on the GREEN, the player PUTTS the ball into the hole. A small golf club known as a PUTTER allows the player to more accurately hit a ball that is on a GREEN.

3. Each time a GOLFER swings at or makes an attempt to hit the golf ball, a stroke is counted. Again, the fewer the number of strokes (swings), the better the score.

4. Every hole on a real GOLF course is a little bit different. Some GREENS are close to the TEE UP area, while some GREENS are far away from the TEE UP area. Some FAIRWAYS are straight, some are curved. Can you think of some other changes we might see in a GOLF course?

GOLF GLOSSARY

COURSE —Area where all 18 holes are located.

FAIRWAY —Mowed area between the TEE UP and GREEN.

GREEN —Area where golf hole is located.

TEE —Wooden object that golf ball is placed on before first being hit. Also an area from which play is begun for each hole (TEE UP area).

STROKE —Term used to describe a swing of the golf club.

ROUND —A game of golf. Usually people play 18 holes for each round of golf. Sometimes only 9 holes are played. This is called a short round.

CLUB —Object that a golfer uses to hit the golf ball.

WOOD —Long club with wooden end. It is used to hit a ball a long way.

IRON —Medium length club with metal end. It is used when ball is on the FAIRWAY and closer to the GREEN.

PUTTER —Short club. It is used when the ball is on the GREEN and when the ball only has to travel a short distance to the hole. It allows a player to be accurate with the golf swing.

PUTT —When a golfer uses a PUTTER to hit a ball on the GREEN into the hole.

PAR —Score that a very good player should make on a given hole. It is decided upon by the people who design and build the golf course.

BIRDIE —One stroke lower than PAR.

EAGLE —Two strokes lower than PAR.

BOGEY —One stroke higher than PAR.

MATCH PLAY —Object of the game is to win **each hole** by scoring lower on the hole than your opponent. Player who wins the most holes, wins the MATCH or game.

MEDAL PLAY —Object of the game is to play for the lowest score among all players with the idea that the winner gets a medal for being low scorer.

PUSH OFF™

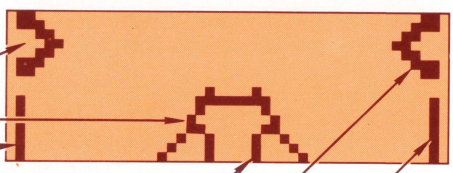
This is a challenging reaction game for one or two players.

OBJECT OF THE GAME:

To push your opponent's man into the wall behind him before your man is pushed into his wall. Walls grow wider and move closer to the men as you continue to play the game.

Select this game by pressing the PUSHOFF game key.

You will hear a TUNE and see the game title on the screen. After a couple of seconds the game title will disappear and you will see this:

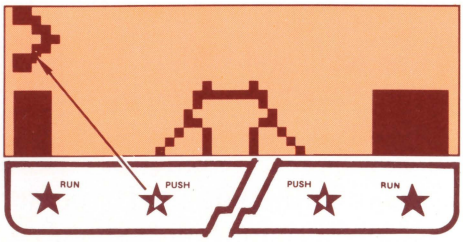


PLAYER 1 ARROW
PLAYER 1 MAN
PLAYER 1 WALL
PLAYER 2 MAN
PLAYER 2 ARROW
PLAYER 2 WALL

There are two PUSH keys at the bottom of the keyboard overlay—one right and one left.

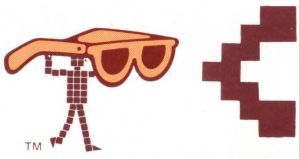
The LEFT key moves PLAYER 1 MAN (on the left)
The RIGHT key moves PLAYER 2 MAN (on the right)

When you see the ARROW above your wall, press **your** PUSH key. Your man will move forward, pushing the other player's man toward the wall behind him.



When the ARROW above your wall DISAPPEARS, STOP pressing the PUSH key. If you press the PUSH key when your arrow is invisible, your man will automatically be pushed backward to your wall. The distance he is pushed back will be anywhere from 2 to 5 steps.

If you and your opponent both press your PUSH keys at the same time and both arrows are visible, neither man will move until one of the arrows disappears.

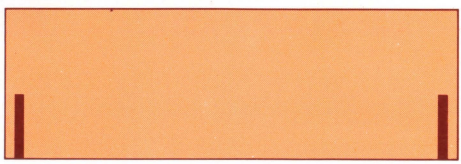


IMPORTANT! Watch your arrows on the screen. Don't watch the men.

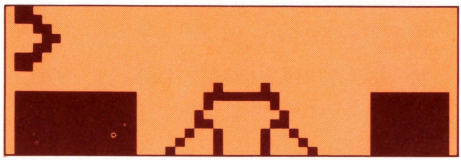
WATCH THAT WALL!

The walls in your Push Off™ game are tricky. They grow wider and move closer together as you play the game.

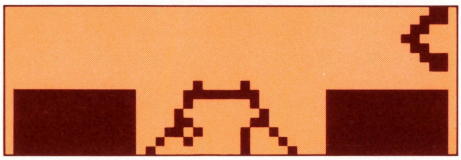
At the start of the game, the walls are narrow and far away from the center.



As you play the game, the walls get wider and closer, growing at different rates. The men have less and less room in the middle. If you don't push your opponent's man off soon, your wall may catch up to your man. If it catches up to him completely, he will disappear into and fall through the imaginary "floor." A special falling sound will be heard and your opponent will then be the winner.

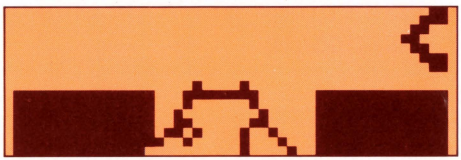


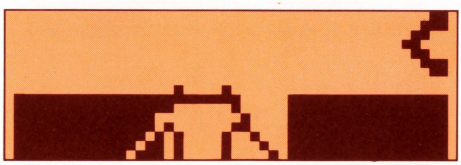
A man can be pushed into a wall even when it is narrower than he is.



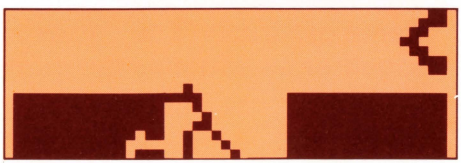
THE FINAL PUSH

When a man is pushed into a wall, this is what you see:





When either player's man is pushed into a wall and falls through the "floor," the game is over. The computer will ask: **SAME GAME?**



If you want to play Push Off™ again, press the SAME GAME key. If you want to play a different game, press the OTHER GAME key. Then press the GAME key for the game you want to play.

1-PLAYER PUSH OFF™

When you play Push Off™ by yourself, you can control **either one or both** men. The computer **only** controls the rate at which the walls grow wider and move forward.

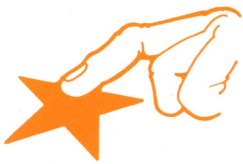
If you don't move either man at all, eventually one of the walls will overtake a man. He will disappear into it, fall through the "floor" and the game will be over.

OTHER WAYS TO PLAY THE PUSH OFF™ GAME!

PUSHOFF™

Here are some fun ways to play PUSH OFF. See which ones are the toughest for you.

FICKLE FINGERS!



Play PUSH OFF using different fingers to press the PUSH key. Which finger works best? Which finger causes the most problems? Try different combinations of fingers. Have your first and fourth fingers take turns. Use your thumb.

WHICH HAND IS THE WINNER?

Use your nonpreferred hand to press your PUSH key. Remember, your nonpreferred hand is the hand you don't use very often (if you are right handed, your left hand is your nonpreferred hand). Compete against a friend who uses his or her preferred hand while you use your nonpreferred hand; then switch.

PUSH OFF

QUICK SWITCH!

EVERY
TIME A
PUSH ARROW
COMES ON, SWITCH
THE HANDS THAT
PRESS THE PUSH
KEY.

DOUBLE BIG PUSH!

One player can control both PUSH keys. But it's difficult to do! Have your left hand control the left man, while your right hand controls the right man. When the left arrow is on, press the left PUSH key. Press the right PUSH key when the right arrow comes on. See what happens to the two men. Try to keep both men away from the walls that keep getting wider and wider. The object of the game is to see if you can keep both men away from the walls for a long time. See if you can increase your time from one game to the next. This can be a most challenging competition.

SUPER HARD PARTNER SWITCH!

Play in teams. Two on one team, 2 on another team, or 2 on one team and 3 on the other team. When the PUSH arrow comes on press the PUSH key, but each time the arrow goes off and then comes back on, switch partners. The new partner now presses the PUSH key. You are now alternating players on every new PUSH arrow. This is really a super hard game. Give it a good try!

CRISS X CROSS CROSS X UP!

Let's make the PUSH OFF game even more challenging. Playing by yourself, cross your hands in front of you so that your right hand presses the **left** PUSH key and your left hand presses the **right** PUSH key. Can you keep the men in the middle of the screen?

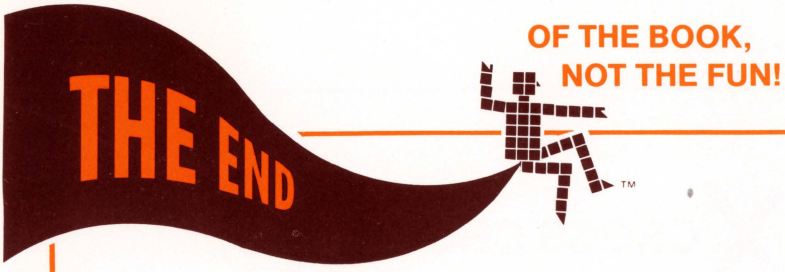
PUSH FOR TIME!

See who can push his opponent's man into the wall in the shortest possible time. Take turns with your friend, playing a 1-player game. Play 3 rounds each and time yourself on each round. After you and your friend have each played 3 rounds, add up your 3 time scores and your friend's 3 time scores. THE LOWEST TOTAL TIME SCORE WINS.

COOPERATION VARIATION 1!

This game is harder than super hard!

Working together with a friend, see how long you can keep both men away from the walls. The longer (use a watch to time yourselves) you both can keep the men in the middle of the screen away from the walls, the better is your cooperative score. Try to improve your time each time you play this game.

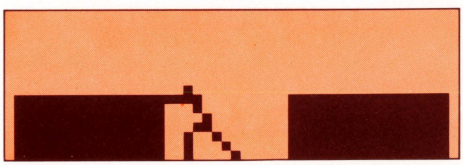


COOPERATION VARIATION 2!

You can now compete cooperatively with two or more friends. It's easy to do. Simply play in teams. The object of the game remains the same. After 5 seconds pressing the PUSH key, allow your teammate to take over for you. Every 5 seconds or so, alternate with your teammate pressing the key. Remember to switch button keys smoothly and to cooperate with your teammate. Good Luck!

AUTOMATIC SHUT-OFF.

The computer's automatic shut-off feature will not work after a game of Push Off™ has been started, until the game is over.



In either a 1 or 2-player game of Push Off,™ the game will eventually end even if no one is playing. One of the walls will eventually overtake one of the men and end the game. The computer will shut itself off, if no one answers its **SAME GAME?** question in 2 to 2½ minutes.

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